

ABSTRACT OF THE INVENTION

The present invention relates to chewing gum composition comprising a polymeric surface active agent. A second aspect of this invention relates to a crunchy chewing gum wherein the crunchy texture is provided by particulate polyphosphate particles within the formulation and which lasts throughout the initial minutes of mastication. The chewing gum composition may also contain a cationic material and/or an orally active metallic ion. The chewing gum composition will provide surface conditioning effects on a subject's teeth and/or oral mucosa and the "crunchy" texture is used as a sensate to reinforce these effects. The surface conditioning effects can be measured through in vitro or in vivo testing. The in vitro testing shows a total surface energy and/or a lewis base score to increase immediately after treatment with the chewing gum and then decrease over time. The in vivo testing shows a water contact angle of the oral mucosa to decrease after treatment with the chewing gum composition and/or a significantly higher smooth teeth feel relative to other chewing gum compositions. The present invention also relates to methods of providing surface conditioning effects to a subject comprising administering to the subject a chewing gum comprising a polymeric surface active agent. The present invention also relates to methods of reducing astringency of a chewing gum containing an orally active metallic ion without significantly reducing the efficacy of the metallic ion.

7943Mapp